

THERAPEUTIC USES FOR NITRIC OXIDE INHIBITORS

ABSTRACT OF THE DISCLOSURE

The present invention is based on the discovery that nitric oxide (NO) is an important growth regulator in an intact developing organism. In particular, the present invention relates to a method of increasing in a mammal a population of hematopoietic stem cells which are capable of undergoing normal hematopoiesis, differentiation and maturation in hematopoietic tissue, wherein the hematopoietic tissue is contacted with at least one inhibitor of NO, such as one or more inhibitors of nitric oxide synthase (NOS), thereby producing hematopoietic tissue having an increased population of hematopoietic stem cells which are capable of undergoing normal hematopoiesis, differentiation and maturation. The present invention also relates to a method of increasing a population of cells in S phase in a tissue of a mammal, comprising contacting the tissue with an inhibitor (one or more) of NO, such as an inhibitor of NOS. The invention also pertains to a method of regenerating tissue in an adult mammal comprising contacting a selected tissue (e.g., blood, skin, bone and digestive epithelium), or precursor cells of the selected tissue, with an inhibitor (one or more) of NO, thereby inhibiting differentiation and inducing proliferation of cells of the tissue.